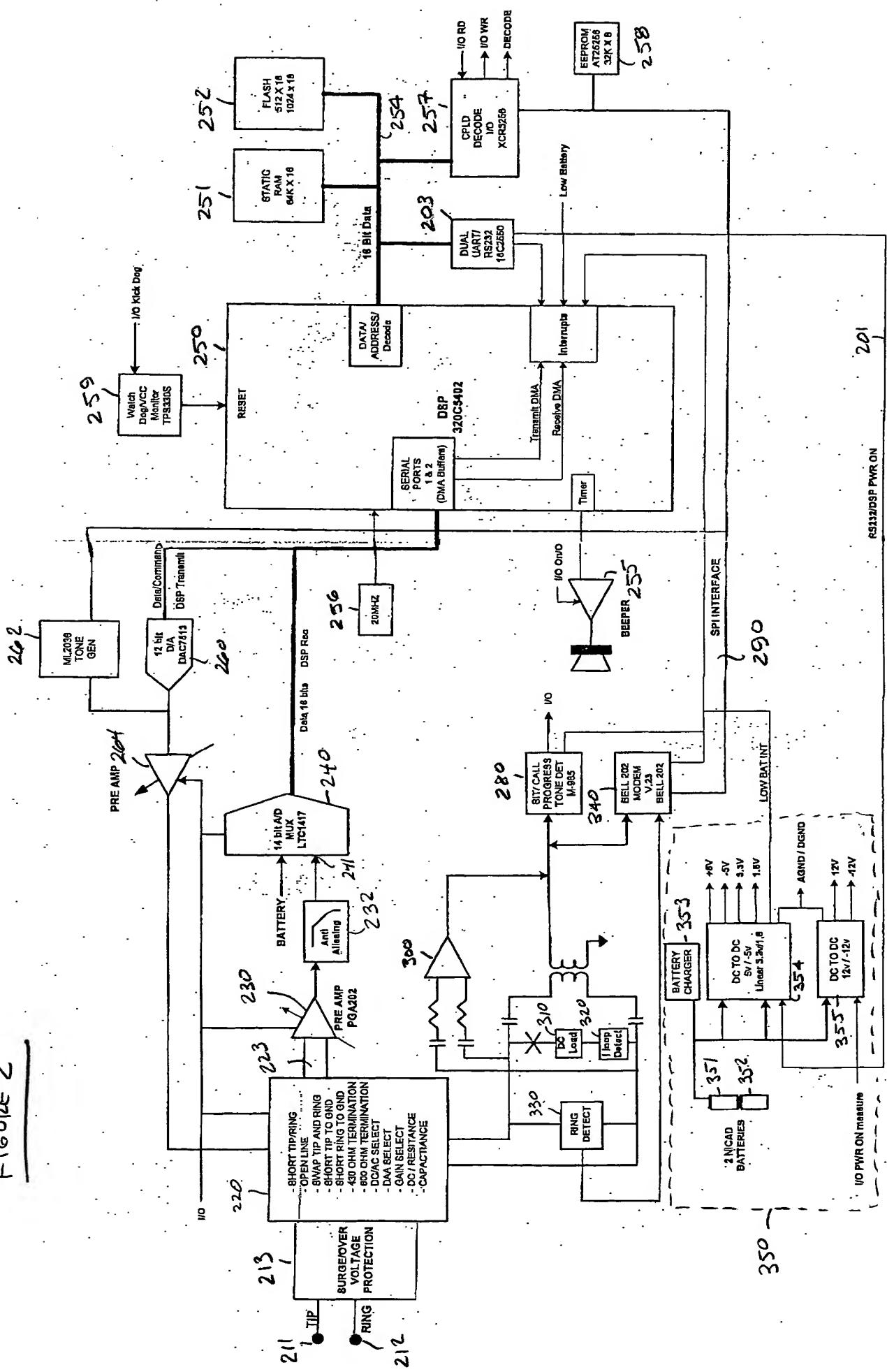


FIGURE 1

FIGURE 2



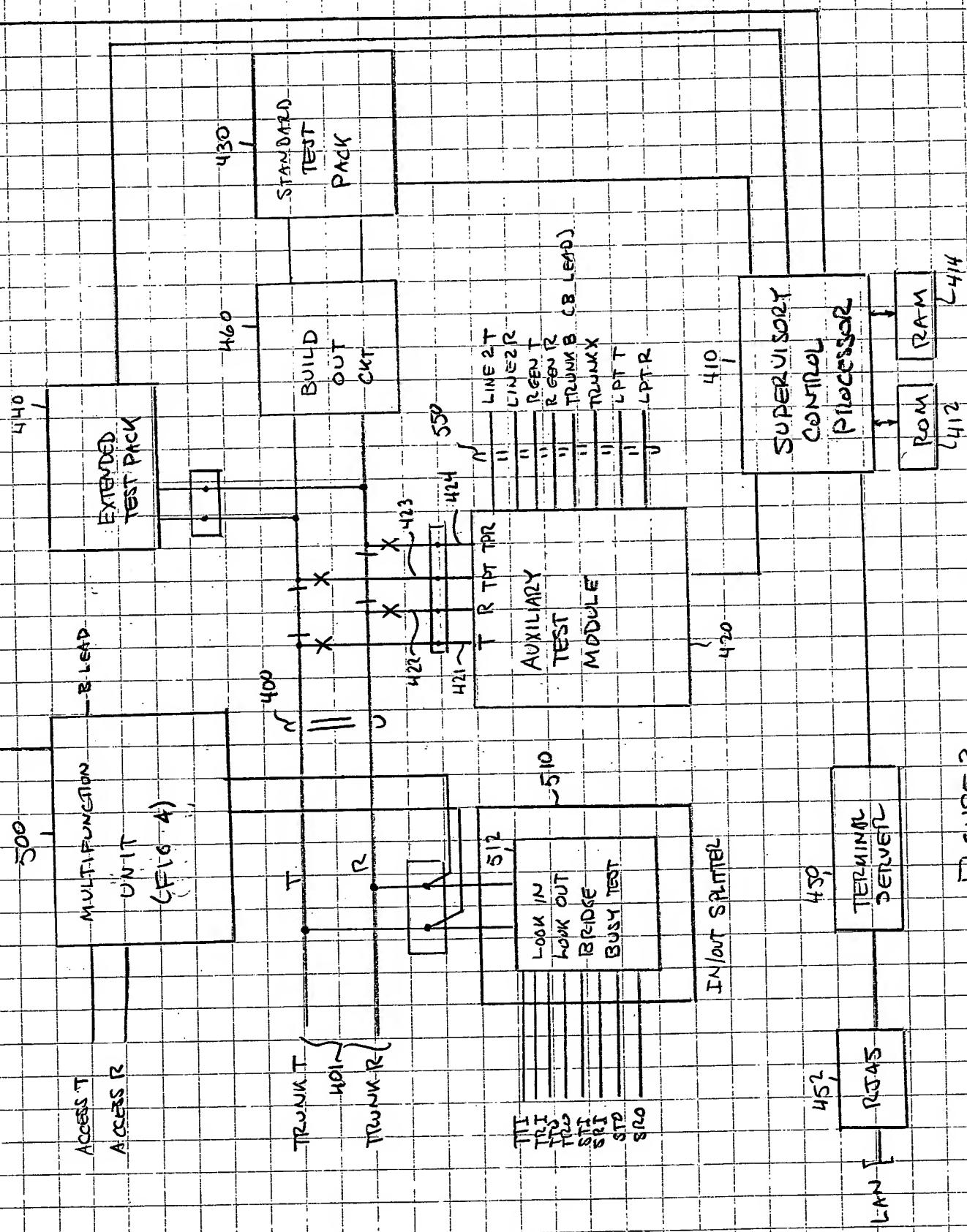


Figure 3

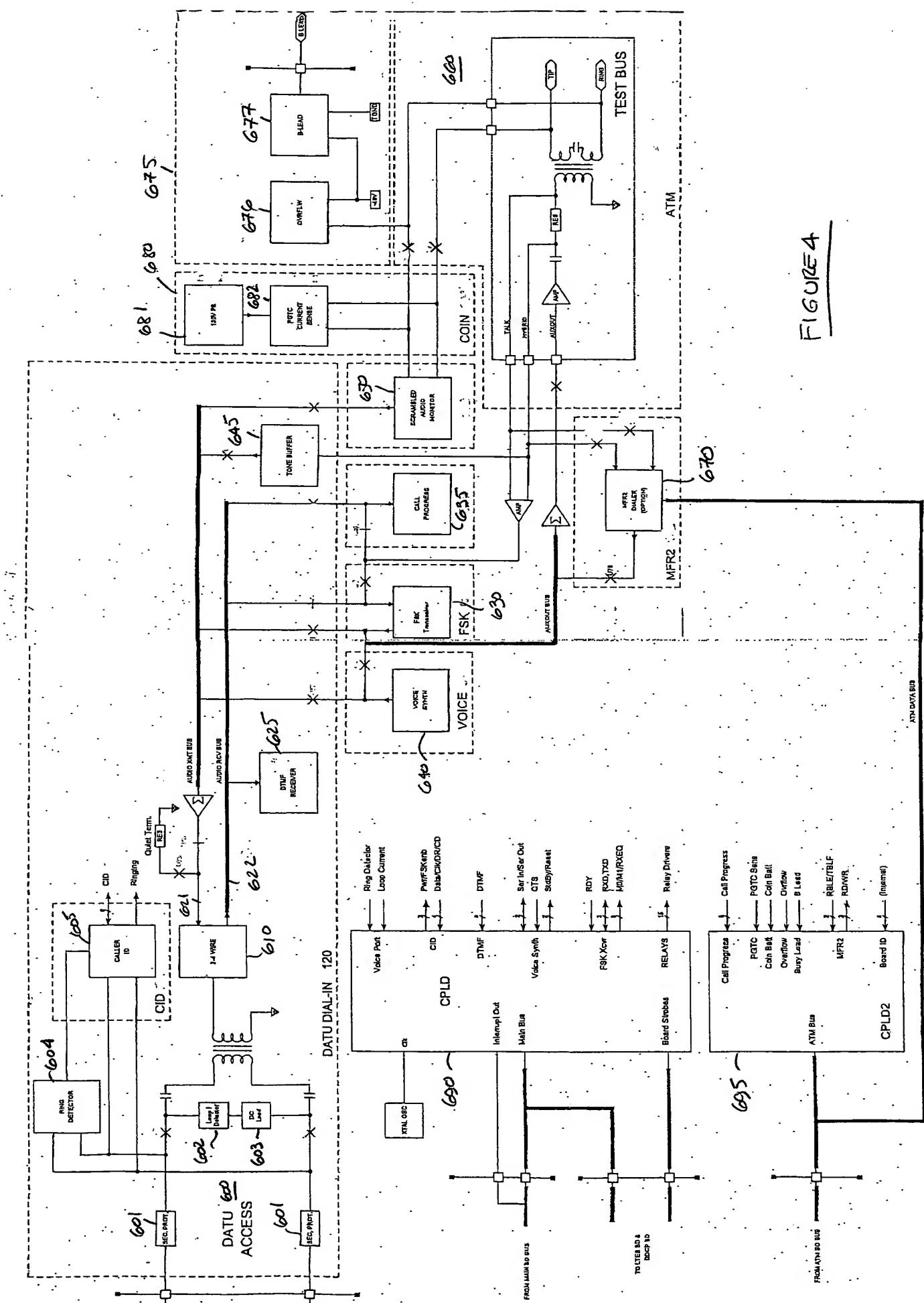


FIGURE 4

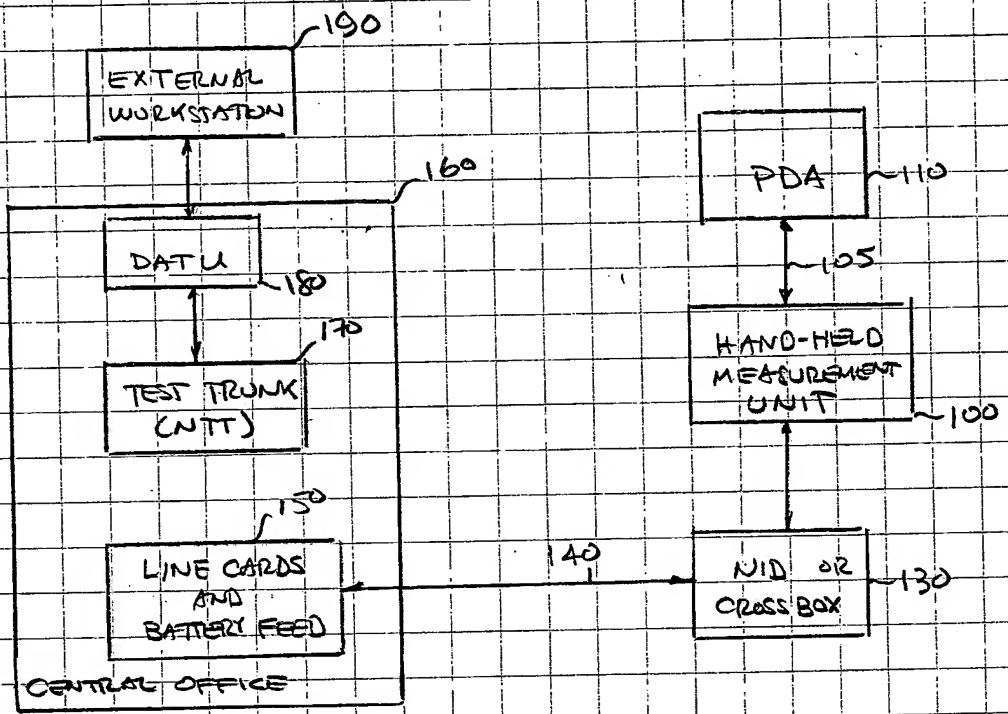


FIGURE 5

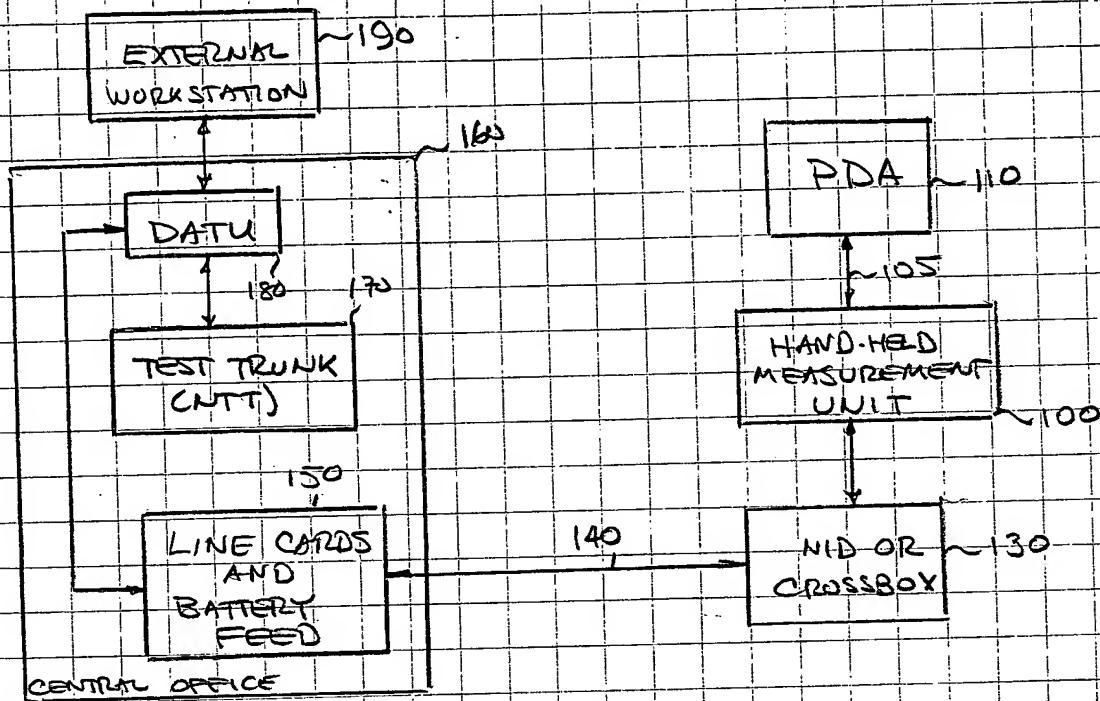


FIGURE 6

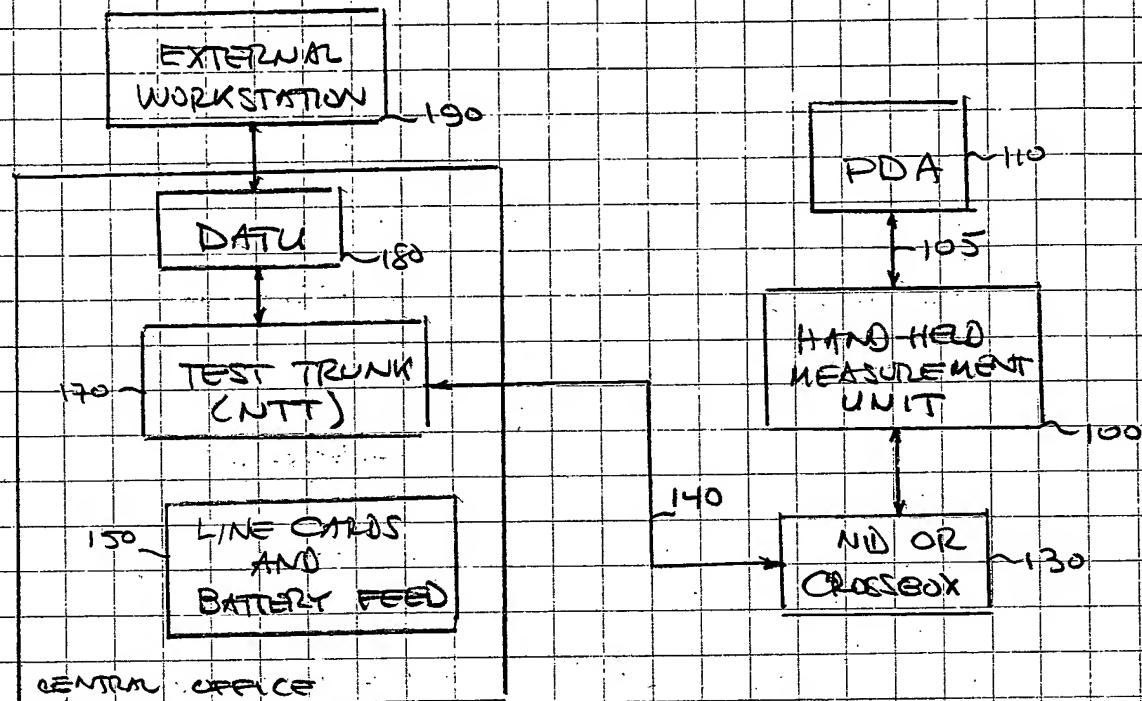


FIGURE 7.

HAND-HELD MEASUREMENT UNIT

CENTRAL OFFICE UNIT (DATU)

CONNECT TO LINE UNDER TEST - 801

MEASURE AND RECORD
AC AND DC LINE VOLTAGE

- 802

('AC VOLTAGE' TEST NO. 1)
('DC VOLTAGE' TEST NO. 2)

DRAVE LINE OFF-HOOK,
MEASURE AND RECORD
LOOP CURRENT

- 803

(LOOP CURRENT TEST NO. 3)

QUALITY DIAL TONE;
DIAL DATU ACCESS NUMBER

- 804

MONITOR CALL PROGRESS
TONES INCLUDING SIT TONES

805 ~ DETECT RING-IN SIGNAL AND
CAPTURE CALLER ID

807 ~ TRIP RINGING AFTER RECEIPT OF
CALLER ID BEFORE SECOND
RINGTONG SIGNAL

808 ~ GENERATE 350/440 Hz DIAL
TONE FOR 500 ms

DIAL DTMF ESCAPE SEQUENCE - 809

810

WAIT FOR DTMF ESCAPE SEQUENCE

(TO STEP 811)

HAND-HELD MEASUREMENT UNIT

(FROM STEP 810)

PROCEED WITH FSK LOG-IN SEQUENCE

CENTRAL OFFICE UNIT (COAU)

812

TRANSMIT RECEIVED CALLER ID DATA VIA FSK CHANNEL AS ACKNOWLEDGEMENT

CAPTURE CALLER ID
ACKNOWLEDGMENT TRANSMISSION
FOR DISPLAY

813

TRANSMIT FSK MESSAGE TO
PROCESS OR STOP

815

DISCONNECT FROM
DIAL IN LINE

DISCONNECT FROM LINE
UNDER TEST AND WAIT
FOR HIGH IMPEDANCE
CALLER ID MONITOR
MODE FOR 30-60 SECONDS
TIME-OUT PERIOD

816

817

ACCESS CTD-IDENTIFIED LINE
VIA TEST TRUNK

818

TRANSMIT WAKE-UP FSK
MESSAGE VIA TEST TRUNK

FIGURE 8B

(TO STEP 819)

HAND-HELD MEASUREMENT UNIT

(FROM STEP 818)

ACTIVATE 600 OHM AC-TERMINATION
AND TRANSMIT FSK ACKNOWLEDGEMENT

~819

INITIATE INTERACTIVE AUTO TEST
SEQUENCE

~820

STEP THROUGH AUTO TEST
SEQUENCE BY PROVIDING
CONDITION OR MEASUREMENT
AS REQUIRED

~822

STEP THROUGH AUTO TEST SEQUENCE
BY PROVIDING CONDITION OR
MEASUREMENT AS REQUIRED

821

TRANSMIT MEASUREMENT
TEST RESULTS VIA FSK
CHANNEL TO DATA

~824

UPON COMPLETION OF AUTOTEST
SEQUENCE, TRANSMIT DATA
MEASUREMENT TEST RESULTS
VIA FSK CHANNEL TO
HAND-HELD MEASUREMENT UNIT

825

TRANSMIT ACKNOWLEDGEMENT AND
DISCONNECT MESSAGE

DISPLAY INFORMATION AND
DISCONNECT FROM LINE

~826

827 ~ DISCONNECT FROM TEST TRUNK

FIGURE 8C

828 ~ STORE TEST RESULTS, CID NUMBER,
NAME, TIME, TECHNICIAN ID, PASSWORD,
HAND-HELD UNIT ID.

HAND-HELD MEASUREMENT UNIT

CENTRAL OFFICE UNIT (DATU)

DIAL-UP AND LOG IN TO DATU;
REQUEST AUTO TEST;
DISCONNECT AND WAIT FOR
DATU ACKNOWLEDGEMENT VIA ~901
TEST TRUNK CONNECTION;
BEGIN INTER ACTIVE
AUTO TEST SEQUENCE

FIGURE 9A

903
↓
MEASURE AND RECORD LOSS
OF (1004 Hz) MILLIWATT TONE

('LOSS' TEST NO. 4)

902
↓
GENERATE MILLIWATT TONE
(1004 Hz) FOR THREE SECONDS

904
↓

ACTIVATE QUIET TERMINATION
FOR FIVE SECONDS

905
↓
MEASURE AND RECORD POWER
INFLUENCE

('POWER INFLUENCE' TEST NO. 5)

906
↓
MEASURE AND RECORD
CIRCUIT NOISE

('CIRCUIT NOISE' TEST NO. 6)

907
↓
SUBTRACT CIRCUIT NOISE
FROM POWER INFLUENCE
TO DERIVE BALANCE;
RECORD BALANCE

('BALANCE' TEST NO. 7)

908
↓
PROVIDE OPEN LINE
FOR EIGHT SECONDS

(TO STEP 909)

HAND-HELD MEASUREMENT UNIT

CENTRAL OFFICE UNIT (COAU)

908, (FROM STEP 908)

('CAPACITANCE' TEST NO. 8)

MEASURE AND RECORD CAPACITANCE
TIP-TO-RING, TIP-TO-GROUND
RING-TO-GROUND

910

PROVIDE TIP-RING SHORT
FOR FOUR SECONDS

('RESISTANCE' TEST NO. 9)

MEASURE AND RECORD
TIP-TO-RING RESISTANCE

PROVIDE TIP AND RING
GROUND FOR FOUR SECONDS

912

('RESISTANCE' TEST NO. 10)

913

MEASURE AND RECORD
TIP-TO-GROUND AND
RING-TO-GROUND RESISTANCE

GENERATE WARNING THAT
HIGH VOLTAGE TEST IS
ABOUT TO BE PERFORMED.

PROVIDE OPEN LINE
FOR FIFTEEN SECONDS

914

FIGURE SB

(TO STEP 916)

915

APPLY 96 VDC TO LINE

HAND-HELD MEASUREMENT UNIT

CENTRAL OFFICE UNIT (CDATE)

(FROM STEP 915)

("STRESS" TEST NO. 11)

MEASURE AND RECORD LEAKAGE
TIP-TO RING, TIP-TO-GROUND,
RING-TO-GROUND

916

OPEN LINE ~ 917

("LOAD COIL" TEST NO. 12)

PERFORM LOAD COIL
DETECTION

918

FIGURE 9C